Ethnomedicine : Uses and Relevance in Palkot block of Gumla District, Jharkhand

Pre-Registration Seminar for Ph.D. in

Geography (Faculty of Social Science)

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1. A Brief Introduction of the Research Topic

Plants had served as source of medicines in Indian system of medicine and other ancient systems in the world. Charaka Samhita and Sushruta Samhita provide detail description on various medicinal herbs. According to WHO, at least 80% people in developing countries rely on medicinal plants.The interest on the same has grown due to their wide availability, easy accessibility and the g belief that they has minimum side effects.

Jharkhand is 28th state of India, is the home of many tribal communities along with varied floristic diversity. Due to close relation with forest, the tribals of the area acquire a unique knowledge about the uses of medicinal plant of their surroundings from many generations.

Tribal developed medicines proves to be a solution to many health related problems. Ethno-Medicinal studies shows that a huge number of medicinal plants have been found here which are source of utility by local people of the area. Ethno medicinal survey helps in the practical process for the selection and scientific inspection of medicinal plants as some remedies have been used successfully by number of people over long period of time

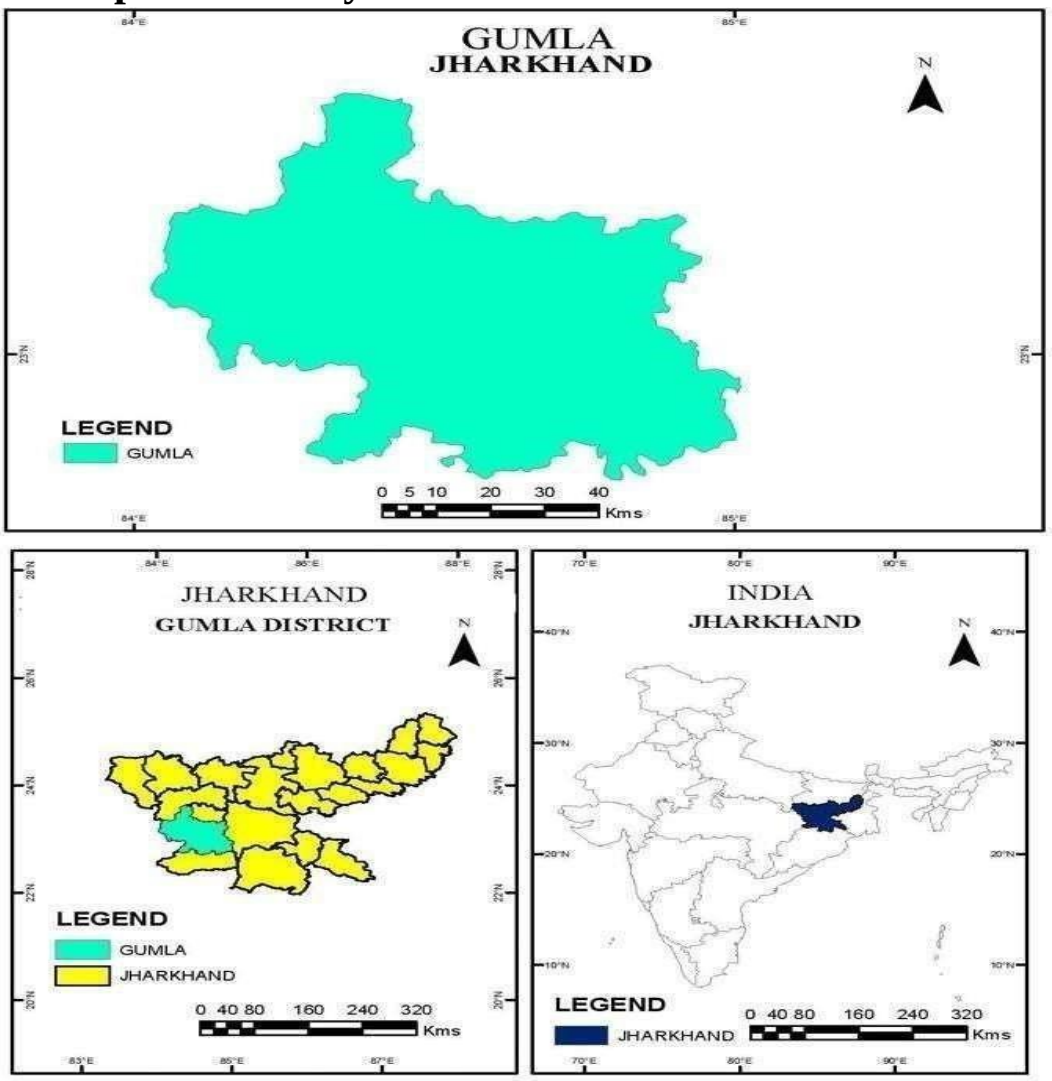
Ethno-Medicinal Plants form the major base of our traditional health care system. Availability and accessibility of AYUSH systems, nationally as well at worldwide level is dependent on the continous availability of good quality plant based raw material. More than 80% of the species used in trade comes from the wild source of which about 2/3rd are harvested by means which prove diasatrous. Cultivation of medicinal plants, therefore, is principle to meet the raw material requirements of the AYUSH industry besides offering opportunities for higher levels of income, crop diversification and growth of exports. Indian exports of ethno-medicinal plants and its extracts of herbs are made available in the form of raw herbs and its various other form products and account for almost 70-80% of the current exports of AYUSH products. During the year 2006 – 07, the exports of Isabgol and Senna from india were alone of the order of 40,000 metric tonnes largely in raw form. Export of value added item requires its development of products, setting up of processing facilities, quality assurance and brand promotion.

Growing concerns of unwanted collection from the wild, disappearance of certain few species on the one hand and concerns of quality on the other make it crucial to promote growing of plants which is critical to AYUSH systems of medicine through appropriate financial incentives, policy, infrastructural and marketing support in a interdependent manner.

People of different cultures have been residing in forests and living a simplistic lifestyle. They are the major source of information and knowledge of these herbal, traditional, medicinally important plants on which their own health care system is based. They pass this knowledge from generation to generation orally and also unwritten therapeutic knowledge need to be preserved with time so that maximum use of these medicinal plants in the cure of various human diseases and in the preparation of drugs could take place and maximum benefits may be extracted for future course of advance studies. More than 80% of world population today rely upon herbal remedies to cure their health problem.

Jharkhand has forest and plenty of ethnomedicinal plants . The area comes under agro-climatic zone which is best suited for the cultivation of ethno-medicinal plants. More than 1500 ethno-medicines are found in Jharkhand. Due to the side effects of the chemical medicines, people are moving towards ethno-medicines because such medicinal plants are found in required amount in the state.

Map of the Study Area



2. State of the Art :

EthnoBotany is the relationship that is present between people and plants. Globally, about 80% of the indigenous medicines are used for primary health care. India is one of the 12 mega- biodiversity countries of the world having vast vegetation with a huge variety of medicinal plants with medicinal value. Rural areas people not only rely on wild plants as source of food, medicine, fodder and fuel but have also developed techniques of resource management, which may be fundamental to the conservation of important habitats of the world.

The paper named " Ethnomedicinal plants used by local inhabitants of jakholi block, Rudraprayag district, western Himalaya, india" by Ankit Sngh & Mohan C. Nautiyal published in the Journal of Ethnobiology and Ethnomedicine on 24th August 2017. Ethnomedicinal knowledge of the Indian Himalayas is quite interesting because of the wide range of medicinal plants which are used in indigenous medical practice. However, there is a danger of knowledge being degraded as the knowledge sharing and transfer is very limited and generally passed orally. Plants are used since time immemorial to cure intense chronic diseases, and also as a source of food, shelter and clothing. Due to low expense incurred and good effective results these medicinal practices are being transmitted through generation to generation and still practiced in different tribal communities. These important or say precious medicinal plants contain rich bioactive stimulating compounds which serve various medicinal preparation activity. Cultural people rely on the medicinal plants around them to gain

economic values and primary health care benefits which is based on need, observation, experience of older ethnic people, and trial and error.

The paper named Ethno-medicine and tribes: A case study of the Baiga's traditional treatment published September 2018 in STM JOURNALS:

Tribes acquires both directly and indirectly, a required amount of their living from the forest. From this article, we conclude that among the Baiga tribes, the health and ailments are related to the overall running and functioning of the body. The tribes of such communities differentiate healthy and ill person through their day to day life schedule routine, appearance and behavioural change. They use the product developed on the basis of forest resources and medicinal plant for the treatment of disease and they too have deep knowledge about the medicines and the forest products.

Ethnomedicinal plant used against various diseases in Jhalawar district of Rajasthan, India. (Bhanwar singh Hada and S.S katewa) journal of global Bio science.

Jain put forward the Ethno-botany concept that deals with the study of total natural and traditional interrelationships between man and plant and his domesticated animals. Here in this work, 19 species belonging to various families have been listed. These plants are basically used in various ailments like diarrhea, vomiting, ringworm, gastric issues, stone, diabetes, leprosy, BP, wound, tuberculosis, piles, scorpion sting etc.

Plants are important resources in health maintainance and for producing medicinal drugs. Pharmacological and Phyto chemical characterization contributes to both the safe use of herbal medicines and the identification of leads for drug development. However, there is no recent evaluation of the proportion of plants used in ethno-medicine that are characterized in this way. Further it is widely clear that plants used in ethno-medicine relates to some specific genetic lineages, it is although not known that how this is related to the focusing of research effort. There were 180 species (10% of the total legume flora) in 104 genera (42% of the total legume genera) reported to have ethnomedicinal use. The pharmacological review identified 98 genera that had been screened (46% of genera).

Expansive ethnobotanical awareness exists in India time immemorial. Since the 1950s the study of ethnobotany has intensified; 10 books and 300 papers have been published. The value of ethno-medicine has been understood and the work is being done on these medicinal plants, household remedies . Statistical methods are being used to assess the credibility of claims. The value of ethnomedicine has been realized; work is being done on psychoactive plants, household remedies and plants sold by street drug vendors. Statistical methods are being used to assess the credibility of claims. Some recent work in drug development relates to species of Commiphora , Picrorhiza (hepato protective), Bacopa (brain tonic), Curcuma (anti inflammatory) and Asclepias (as a cardiotonic). A scrutiny of folk claims found 203 plants for evaluation. The ethno-medicines which are less known ethnomedicines have been visualized that are used to treat intestinal, joint, liver and skin diseases.

India has richest genetic resources of medicinal plants and indigenous systems of medicine like Ayurveda, Siddha and Unani. However, there is a need to understand ethnomedicinal plants used by tribal populations. Hence, a survey of some ethno medicinal plants used by tribal population in Nilgiri Hills, Tamil Nadu, India was conducted. A total of forty-nine plant species belonging to twenty-nine families are documented in this survey. In rural India, 70% of the population is dependent on the traditional system of Ayurveda medicine. In order to promote Indian herbal drugs, there is an urgent need to evaluate the therapeutic potentials of the drugs as per WHO guidelines. The traditional use can provide valuable clues for the selection, preparation and indications for use of herbal formulation basically starts from the survey of tribal population. Ethnobotanical studies are often significant in revealing locally important plant species especially for the discovery of plant based drugs.

3. Problems to be investigated:

A lot of problem in the palkot block can be seen related to various kinds of diseases and their remedies. As the block has numerous varities of ethnomedicinal plants which are present in abundance, so the treatment of these various human ailments becomes effective.

The main problems to be investigated in the research are as under:

1. Palkot heritage of traditional system of medicine is increasingly under vulnerability due to increasing modernization of tribal regions.
2. The Ancestral Knowledge of ethnomedicine has now been limited to only a handful of elderly people.
3. Due to side effects of chemical medicines, people are moving towards ethnomedicines because such medicinal plants are found in required amount in the state.
4. The existence of the indigenous medicine is largely dependent on bio resources, so if cut down the supply leads to loss if healing methods.
5. Issues regarding safety and Quality control of ethnomedicine

4. OBJECTIVES OF THE INVESTIGATION AND MOTIVATION

The objective of this research is to prepare a survey of the medicinal plants used by the tribal population in Palkot block of Gumla district of Jharkhand.

1. To find out the uses of Ethno-medicine Plants in treating various human ailments with detail description of the various surveyed Ethno-medicinal plants in the area.
2. To Analyze the current scenario of Ethno-medicine in the area with detail description of how ethnomedicine is useful in treating MALARIA as the area is Malaria PRONE.
3. To study about the conservation of Ethno-medicinal Plants and Different policies and programmes implemented in the area.
4. To determine the role of AYUSH in the area related to ethno-medicine and ethno-medicinal plant conservation.

5. Research Question:

1. How much effective are Ethnomedicine in treating various human diseases?
2. What are the ways to conserve the Ethnomedicinal Plants?
3. Name the Ethnomedicinal plants which are present in abundance in the area to treat Malaria?
4. What percentage of people is dependent on Ethnomedicine in the block?

6. RESEARCH DESIGN AND METHODOLOGY

The method of collecting information about Ethnomedicinal plants was completely based on personal interview with tribal vaidhyas of various age groups living in the villages of rural areas. The medicinal plants were photographed and the voucher specimens were collected along with the interviewed tribal vaidhyas.

The collected data were compared and cross checked with the available data of the locally published booklets on medicinal plants to discover the validity. It was also observed that many villagers were familiarized with various medicinal plants used for common diseases like cold, cough, diarrhoea and dysentery. Some information was also collected by discussion with village Ojhas and teachers. The present Ethnobotanical research was put into field and literaryresearch.

Fig 2: Modes of data collection procedure with the help of this flowchart diagram. Source:

Interviews and group discussions were lead to accumulate information on plant uses, parts used, and various modes of utilization. A checklist was prepared and used to determine what species were used to treat what kinds of ailments. Focussed attention was paid to record information from local traditional healers and vaidays.

This study is based on extensive ethno-medicinal survey conducted in villages of Ranchi District of Jharkhand. The ethno-medicinal properties of different plants were recorded by consultation and interview from indigenous people of these areas including local people, healers, knowledgeable persons, vaidyas and local practitioners etc.

The data taken here Is basically qualitative form of data. As the research is done through surveys via Indepth interview and questionnaire. A questionnaire can be characterised as an examination

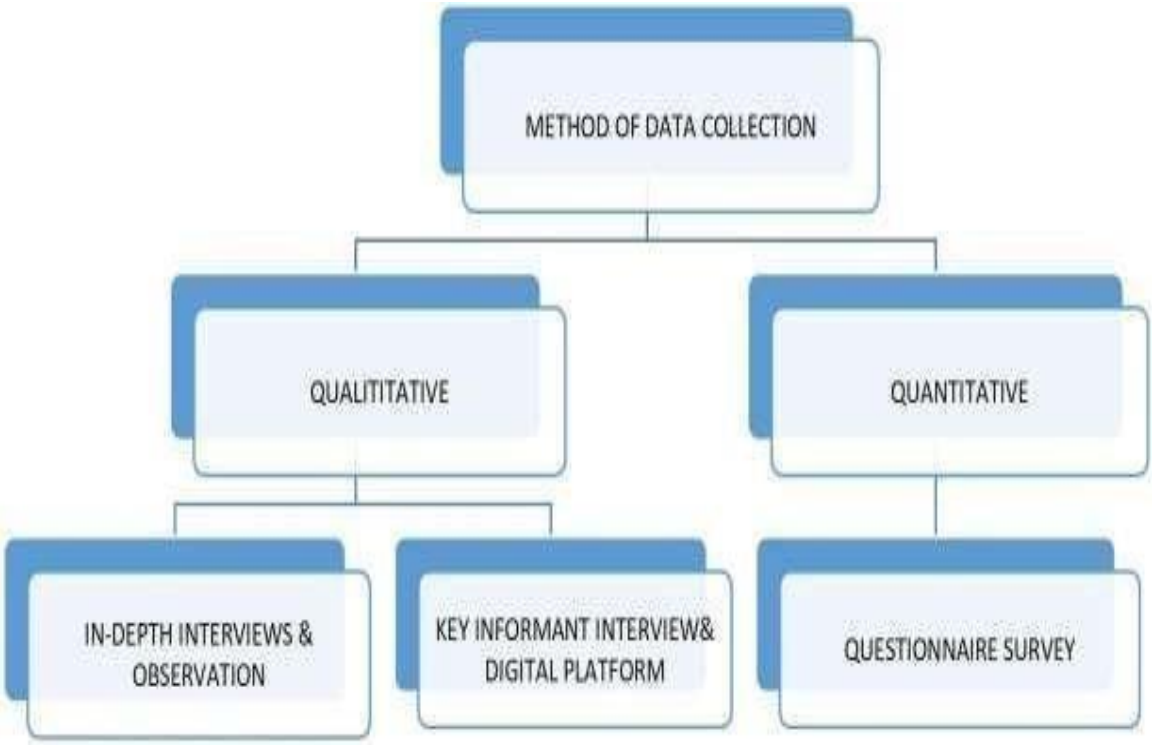
instrument that contains various inquiries that are utilised to gather data and information from the respondents. Qualitative research is appropriate when:

- The intended research area is not well studied or understood
- A subject needs to be studied in depth;
- A holistic perspective is needed;
- Behavioural aspects of people need to be studied;
- Measurement techniques like questionnaires are not considered suitable;
- A researcher is more interested in the process (how it works) and not the product (the outcome).

Qualitative methods help to study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them. They bring an insider's perspective which aims for a holistic picture from historically unique situations, where idiosyncrasies are important for meaning. These methods aim to answer questions about the 'what', 'how', 'why' of a phenomenon rather than 'how much' or 'how many'.

The data collection is primary here. Primary data collection is the process of gathering data directly from a first-hand source. In other words, it's data that's collected by the organization that expects to use it. Methods include surveys, interviews, observation, and focus groups. These data are also called raw data as these are first hand data. These date are specific to the research and hence are more objective.

Fig 1: Method of Data Collection



Source: Created by Author, 30th August 2023

Sample in Research:

The sample is the specific group of individuals that you will collect data from. The number of individuals you should include in your sample depends on various factors, including the size and variability of the population and your research design. There are different sample size calculators and formulas depending on what you want to achieve with statistical analysis.

The sample size for this research is 300.

As per the good system of sample, it should be 10% of the total population of the area but less than 1000.

Conclusions drawn from samples are intended to be generalized to the population, and sometimes to the future as well. The sample must therefore be representative of the population. This is best ensured by the use of proper methods of sampling. The sample must also be adequate in size – in fact, no more and no less.

TENTATIVE CHAPTERISATION:

INTRODUCTION

Chapter- I : Geo-Environmental Background of Ethnomedicine

Chapter- II : Causes and Pattern of Ethnomedicine (Geo- Histo Approach)

Chapter- III : Relevance and Current Status Of Ethnomedicine

Chapter- IV : Diversity of Ethnomedicinal Plants (Uses and Preservation)

Chapter- V : Medicinal value Pattern of its Utilization and problems of Ethnomedicine Doctor's.

Chapter-VI : Goverments initiative in Preservation and promotion of ethnomedicinal plant and medicine.

Chapter-VII : Conservation and future plans

CONCLUSION

BIBLIOGRAPHY

APPENDIX

7. TOOLS TO BE USED IN COLLECTION OF DATA

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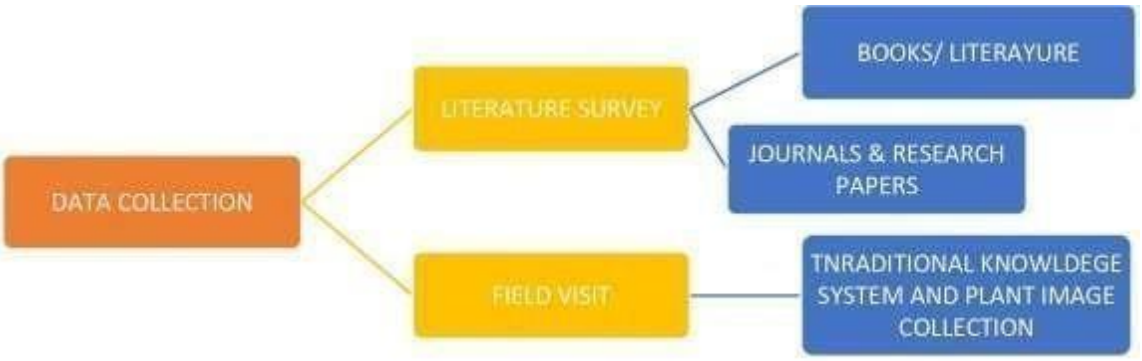

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8. Analysis of Data

1. The prepared questionnaire would be first filled with the help of the local, indigenous, tribal people of the area. Then the total number of the population in favour of ethnomedicine as alternative treatment are counted and then the population who are in favour of chemical, synthetic medicine are also counted. Then the ratio will be calculated or percentage could be one of the method to find how much the area is influenced towards the ethnomedicine in the current scenario. % of people in favour of ethnomedicine.

= total no. of people in favour of ethnomedicine * 100 / total no. of people in the sample.

2. The second method of research is indepth interview of the population of the area. As interview comes under qualitative type of data, so the analysis here could be narrative. Narrative analysis is a type of qualitative data analysis that focuses on interpreting the core narratives from a study group's personal stories. Through interview, the Stories behind the use of ethnomedicine in the lives of many people are first written and then analysed.

This type of analysis reveals indepth detail of a situation. This can reveal the significance of ethnomedicinal plants elsewhere not recorded. This type of analysis is very helpful in uncovering behaviours, feelings and motivations that aren't expressed explicitly.

Methods of narrative analysis:

1. Exploratory/ inductive method
2. Confirmatory/ deductive method

This research is most appropriate as it focuses on interpreting individual, human.

Narrative analysis steps for the research topic:

1. Researchers can first collect the data in the form of written texts, conducting interview or analysing visual media.

Once the narratives have been collected they are transcribed into a written format and then coded in order to identify themes, motifs or other patterns.

9. SIGNIFICANCE OF THE STUDY

Nature has its own way of protecting mankind from the atrocities of illness and diseases by producing natural products of diverse structures and bioactivities, not only necessary for good health but also to combat diverse life-style and infectious diseases including microbial infections caused by virus, bacteria, fungi, protozoa, and other parasites. The problems of emerging and emerging diseases with drug resistance, latency, and reactivation along with the shorter life span of most synthetic agents or drugs have directed scientists to look into the treasure chests of nature to find out and explore the natural metabolites of plants for the management of diverse diseases including viral diseases. This chapter explains the treasure of "Ethnomedicine" and its journey through time, which reveals the importance of this branch of "natural science" in the current scenario, its potential as "alternative or complementary" medicine, especially against viral diseases with a detailed account of identified antivirals, their isolation and identification as "natural antiviral" to make the readers realize the need to accept "ethnomedicine" as appropriate alternatives to "synthetic chemistry."

10. RELEVANCE TO PRESENT DAY PROBLEM AND NEED OFTHE SOCIETY

The benefits of ethno-medicine cannot be ignored. For residents of developing countries, traditional medicine is preferred and can ultimately be more effective when providing aid. Aid organizations must revisit their practices and work to include these traditional medical methods. This way, medical aid can be more effective and last even after aid workers have left the crisis. Western aid workers must work to lose their ethnocentric tendencies and embrace the profits of incorporating traditional medicine into their practices.

It has been since years that herbal remedies have been used to make conventional medicines. In fact, herbal medicine is the base of modern medicine and has very less side effects. Tragically, when compared with modern drug therapy, herbal medicine usually takes a backseat. It is a shame to the natural herbal therapy since natural treatment offers lots of health benefits.

- More affordable than conventional medicine
- Easier to get than the prescription medicine
- Stabilizes hormones and boosts metabolism
- Natural healing process gets fasten up
- Strength in immune system get improved
- Fewer side effects than any other
- cost effective is the best part of such medicine

Plants being an important resource in healthcare is used for producing medicinal drugs. Medicinal and photochemical characterization ensures both the safe use of herbal medicines and the classification of the same for drug development. Nonetheless, there is no current evaluation of the proportion of plants used in ethno- medicine that are distinguished in this way. Further, it is widely visible that plants used in ethno-medicine belong to unique genetic linkages. Now we recognise species rich in ethno-medicinal use and develop certain methods and techniques to describe how they are known

medicinally in the treatment of various ailments. We find 70% of plant species of the family Leguminosae used as ethno-medicine, where medicinal plants are an important part of healthcare.

11. CONTRIBUTION TO THE EXISTING KNOWLEDGE

Huge number of research works have been performed on ethno medicinal plants for their phyto-chemical analysis and there uses in the treating of anemia. The medicinal plant has been used by the People from time immemorial for the therapy of various types of diseases.

Charak Samhita and Sushruta Samhita are considered to be the two most important document of this system of medicine. So, any task performed previously on ethno-medicinal plants to cure various chronic diseases.

It has been estimated that more than 35000 plant species are being used around the world for ethno-medicinal purposes.[32] out of those plant species 8000 plants species are referred to in Indian folkfore, but in actual only 1700 plant species have been documented in old literature. Hence there is huge potentiality in ethno-medicinal plant research work.

The paper will be a contributing factor to the existing knowledge and ideas regarding anti- anaemic properties and functions of ethno-medicinal plants. The paper will also be a help to medical science to find new drugs and will enrich the indigenous knowledge of herbal medicines favoured with scientific approach. According to the latest estimation of WHO 70-95% population of developing countries and 70-80% population of developed countries prefer alternative medicine for their primary healthcare. It will provide a great help in documentation of traditional knowledge along with scientific approach.

12. FUTURE WORK

There should be a council of Ethno-Medicine like councils of Yoga, Ayurveda, Siddha, Homeopath and Unani under ministry of AYUSH. As Jharkhand is full of medicinal plants, it will be better if the headquarter is set up in Ranchi,"

Tribal medical treatment, or Hodopathy, is a process of mixing herbs and extracts to cure diseases without having any side-effects on patients.

A section of Ayurveda experts in the country, who are more interested in business than knowledge, are reluctant to accept Ethno-Medicine as a different discipline. They see it as part of Ayurveda.

Plants have been the basis for medical treatments through much of human history, and such traditional medicine is still widely practiced today. Modern medicine recognizes herbalism as a form of alternative medicine, as the practice of herbalism is not strictly based on evidence gathered using the scientific method. Modern medicine, does, however, make use of many plant-derived compounds as the basis for evidence-tested pharmaceutical drugs, and phytotherapy works to apply modern standards of effectiveness testing to herbs and medicines that are derived from natural sources.

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